

protein. It differs from the known cytoplasmic domains of the L1 protein in that the carboxy terminal amino acid is phenylalanine (Phe) instead of tyrosine (Tyr). This is amino acid residues 75-86 of SEQ ID NO.: 6 of Schachner. There is no disclosure of any eleven amino acid fragment of L1 in the patent.

The disclosure and claims of the Schachner patent are all directed to the use of proteins and fragments thereof isolated from the extracellular domain of the L1 protein. There is no disclosure in this patent which addresses, directly or indirectly, the functional significance of the interactions mediated by the cytoplasmic domain of the L1 protein. Additionally, the uses of peptides derived from these L1 proteins is limited to modulators of extracellular interactions.

The Schachner patent does not disclose the eleven amino acid peptide as set forth in SEQ ID NO.: 2. The sequences set forth in the patent which are directed to the cytoplasmic domain of L1 are as follows: SEQ ID NO.: 1-3 are from mouse CHL1 protein; SEQ ID NO.: 4-11 are the sequences for the cytoplasmic domain of the L1 family members; SEQ ID NO.: 9 is mouse L1, which is essentially identical to rat L1 in this region. In column 11, lines 27-41, and in Fig. 20, they identify the cytoplasmic domain of L1 from numerous species. They do not disclose the amino acid substitution (Tyr – Phe) in SEQ ID NO.: 2. Fig. 20 depicts SEQ ID NO.: 4-11 and is mentioned in example 23 on columns 50 and 51 but only in the context of a general discussion of the similarities between L1 family members.

As mentioned above, Schachner's disclosure of fragments of L1 proteins are limited to those isolated from the extracellular domain. For example, in column 42, line 58, antisense RNA directed to fragments from the extracellular domain is disclosed; on column 41, line 58, polyclonal antibodies directed to fragments of the L1 extracellular domain were produced; in column 72, lines 38-41, it is stated:

"The following experiments show that fusion proteins that contain the extracellular domain of L1 or CHL1 promote survival of both cerebellar and hippocampal neurons in culture."

